



# Project open house meeting

City project number:  
10535 – Wilson Creek


Project website:

[www.mankatoconstruction.com](http://www.mankatoconstruction.com)

*Leading the way as a prosperous diverse regional community*  
•Responsive •Efficient •Greater Good •Innovative •Open •Neighborly

# Important information

1. Please sign in

 City Improvement Numbers: 10227, 10228, 10229 and 10230  
Public Informational Meeting  
December 11, 2012 6:30 PM  
Intergovernmental Center

NAME	ADDRESS	PIN	SIGNATURE


2. Take a packet & return comment card

**Project Feasibility Report**  
2014 Alley Surfacing Project  
City Project Number 10280  
City Of Mankato

---

**2014 Alley Surfacing Project**  
Project Feasibility Report  
City Project Number 10280

January 17, 2014



**CITY OF MANKATO  
PROJECT CONTACT CARD**

Home Phone: \_\_\_\_\_  
Cell Phone: \_\_\_\_\_  
Alternate Cell Phone: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Alternate Email Address: \_\_\_\_\_

How would you like to receive construction related information on this project?  
☐ Email   ☐ US Postal Service   ☐ Facebook   ☐ Twitter  
☐ RSS Feed   ☐ City Website   ☐ Telephone   ☐ Personal Visit  
☐ Regularly Scheduled Meetings

# Introductions

- Michael McCarty – Project Engineer  
507-387-8643  
mmccarty@mankatomn.gov
- Bridget Anderson– Project Designer  
507-720-4472  
ETI@mankatomn.gov

# Project success

---

- Our plan for project success begins now. When citizens and city staff work together, we can build a relationship to take this project successfully to completion through suggestions, assistance and good communication.



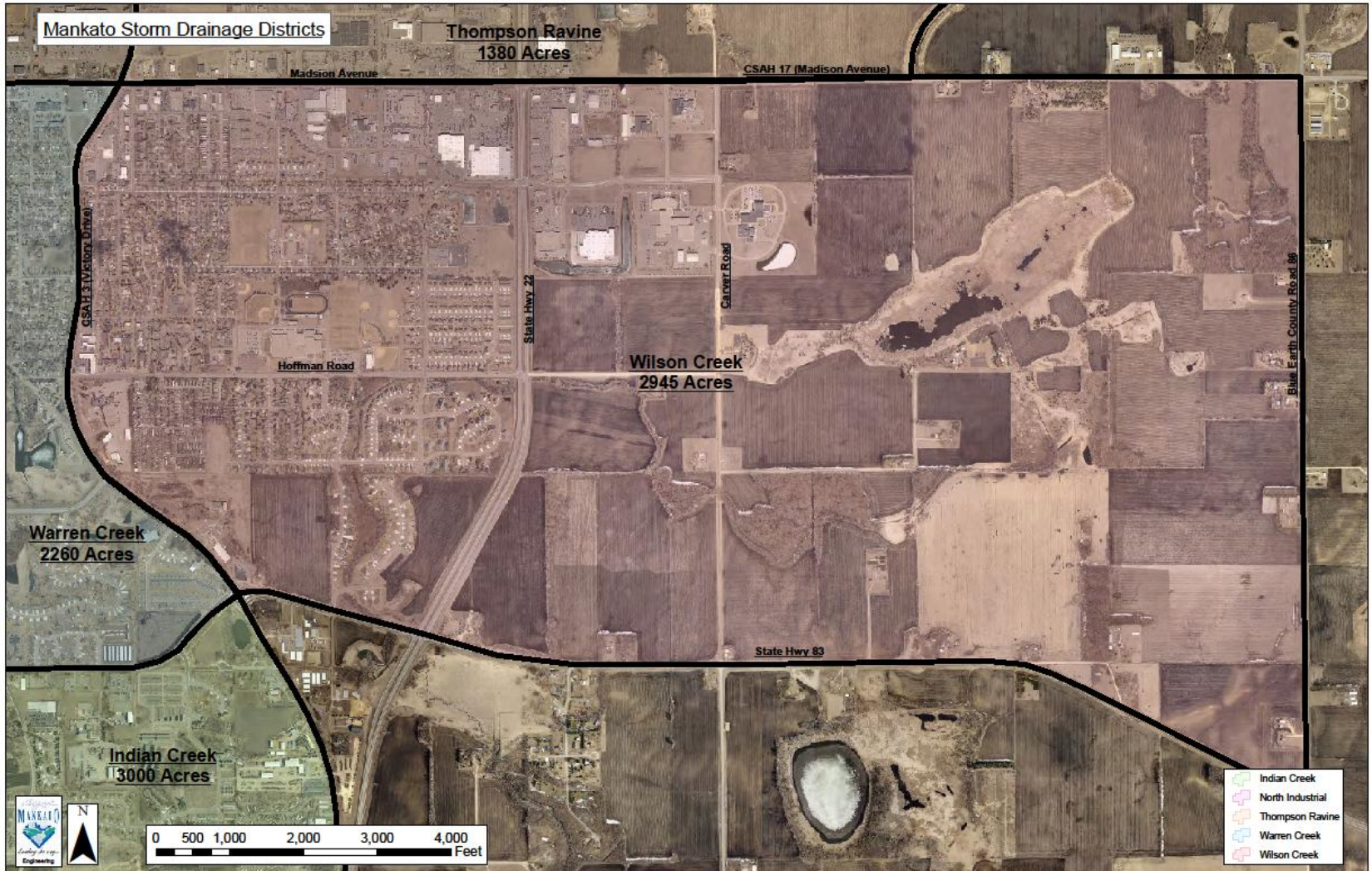
# Why project work is needed

---

- Many calls for service for
  - Vegetation Management
  - Bank and Channel Erosion
- A comprehensive plan is needed to provide cost effective lasting solutions

# Wilson Creek

6



# Wilson Creek

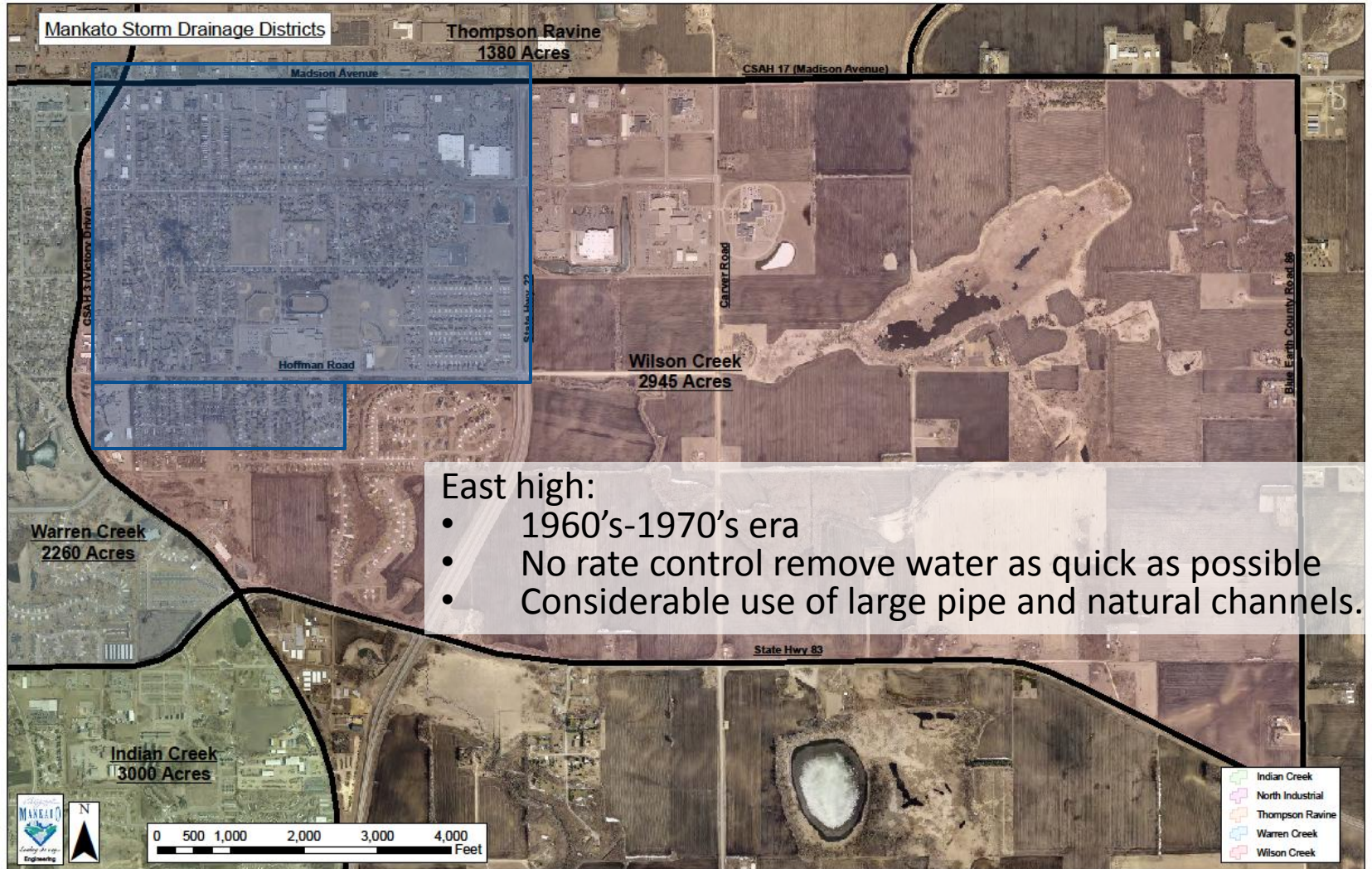
7

- Nearly 3000 acres of drainage pass through Wilson Creek
- Originally a natural stream, modified to become a County Ditch
- Straightened and moved with the paving and extension of Hoffman Road to TH 22.
- Various development aspects within water sheds
  - East High School area
  - Basset Drive area
  - Undeveloped areas



# Wilson Creek

8

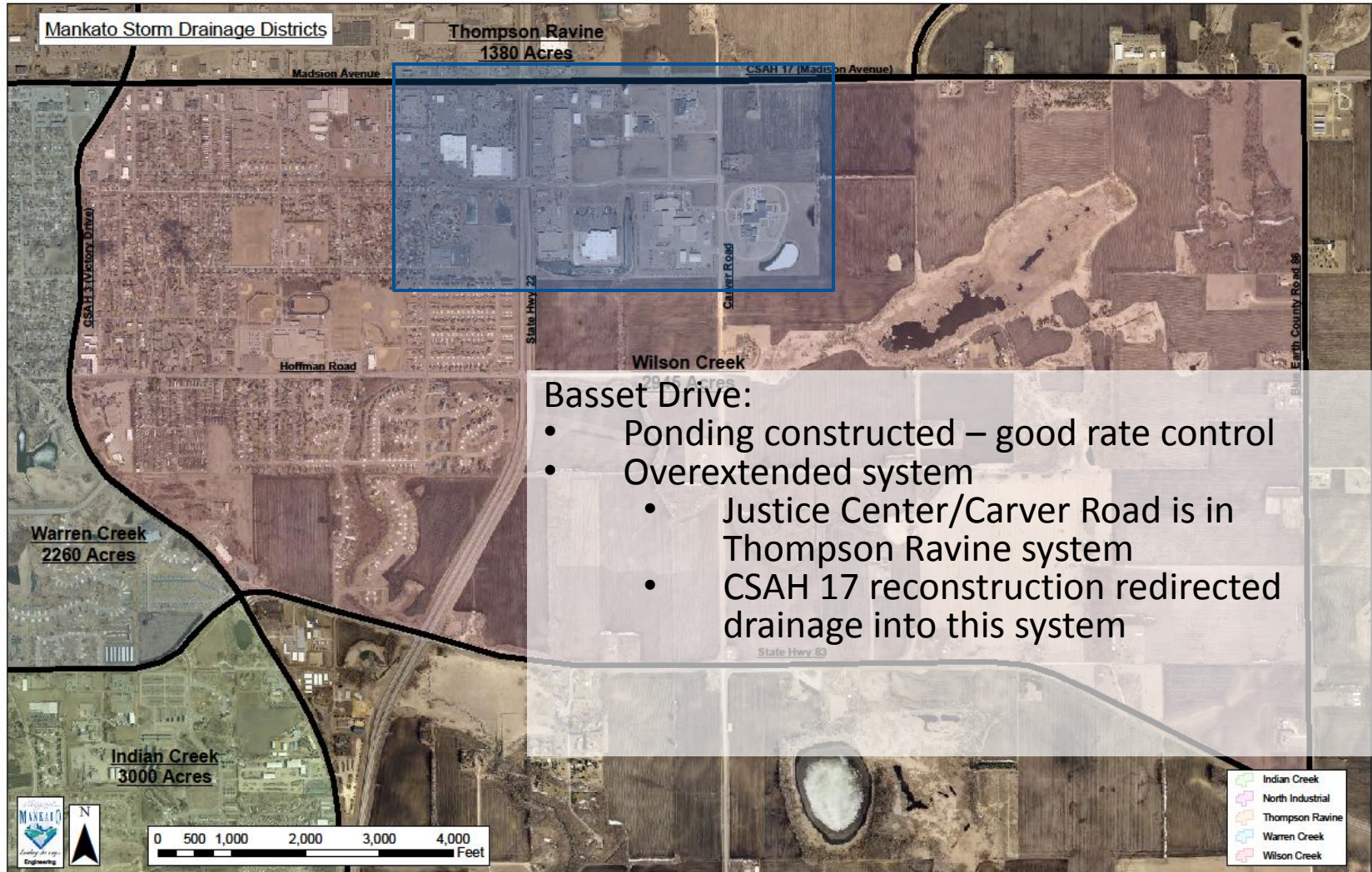


This information is to be used for reference purposes only. The City of Mankato does not guarantee accuracy of the material contained herein and is not responsible for misuse or misinterpretation.



# Wilson Creek

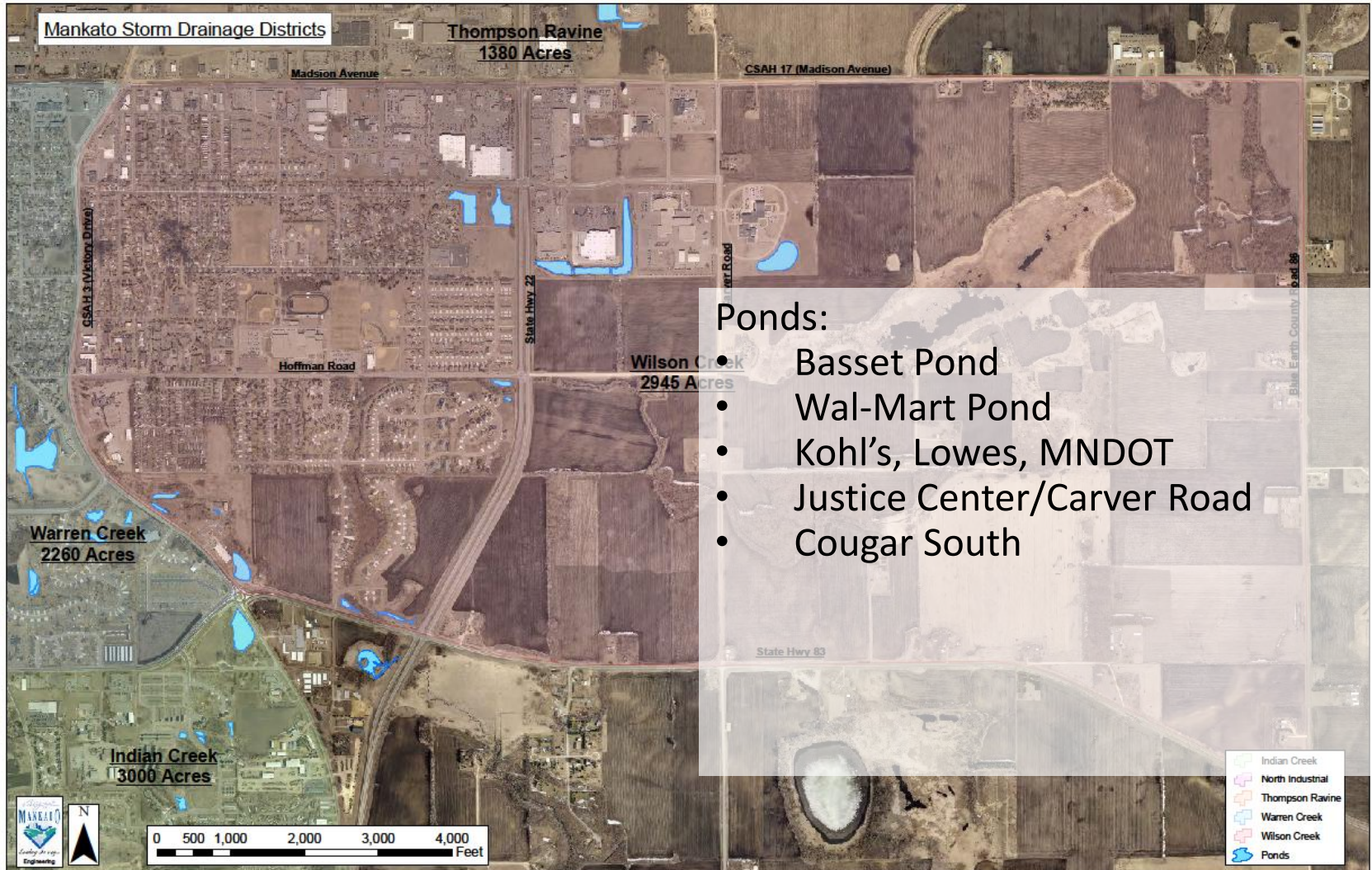
9





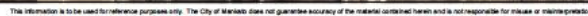
# Wilson Creek

10



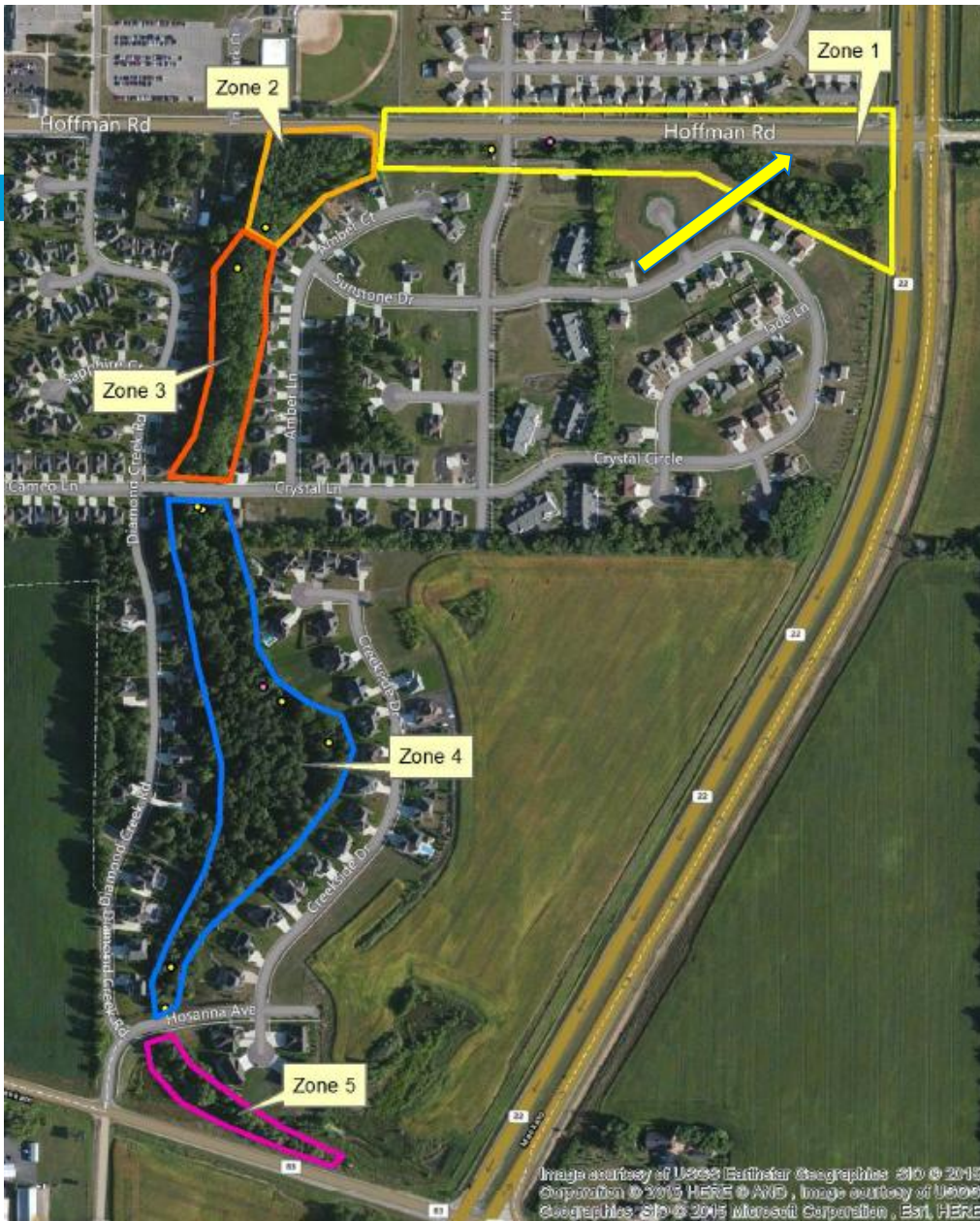


## 11





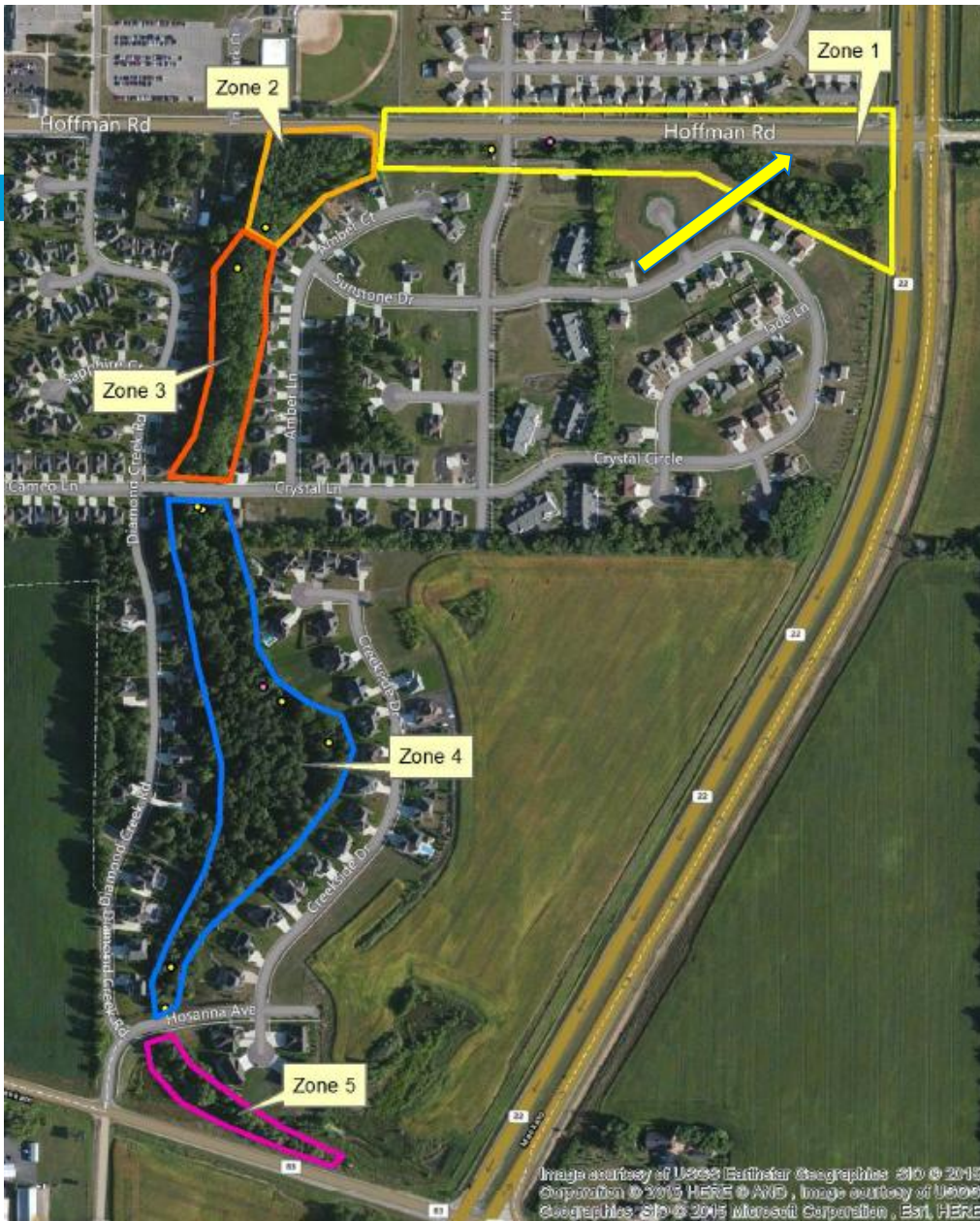
# Study Area



- **Zone 1 – Hoffman Rd. Ditch section**
- **Zone 2 – Narrow creek with young vegetation**
- **Zone 3 – Downstream of two 60-inch storm pipes – wider straight channel**
- **Zone 4a: South of Crystal Lane – relatively straight, limited bank erosion.**
- **Zone 4b: Most pronounced bank erosion, tight meanders, high banks.**
- **Zone 4c – Meanders with short banks, sediment bars**
- **Zone 5 – Hosanna Ave to Hwy 83**



# Zone 1



- **Zone 1 – Hoffman Rd. Ditch section**
- **Zone 2 – Narrow creek with young vegetation**
- **Zone 3 – Downstream of two 60-inch storm pipes – wider straight channel**
- **Zone 4a: South of Crystal Lane – relatively straight, limited bank erosion.**
- **Zone 4b: Most pronounced bank erosion, tight meanders, high banks.**
- **Zone 4c – Meanders with short banks, sediment bars**
- **Zone 5 – Hosanna Ave to Hwy 83**

Zone 1: Creek = Ditch on south side of Hoffmann Rd:

a) General view (note steep sides)

b) Closeup – typical section

c) Culvert at Hosanna Dr. receiving major storm sewer inflow (60-in pipe from north)





Zone 1 CONTINUED Creek = Ditch on south side of Hoffmann Rd:

a) Potential for side sloughing      b) Closeup





## Zone 1: Highway 22 to west of Hosanna Avenue

Wilson Creek is being utilized as a ditch on south side of Hoffman Road. Vegetation adjacent to the ditch is mostly non-native species like brome and Canada goldenrod. Areas of invasive species such as vetch (lower left) are present.



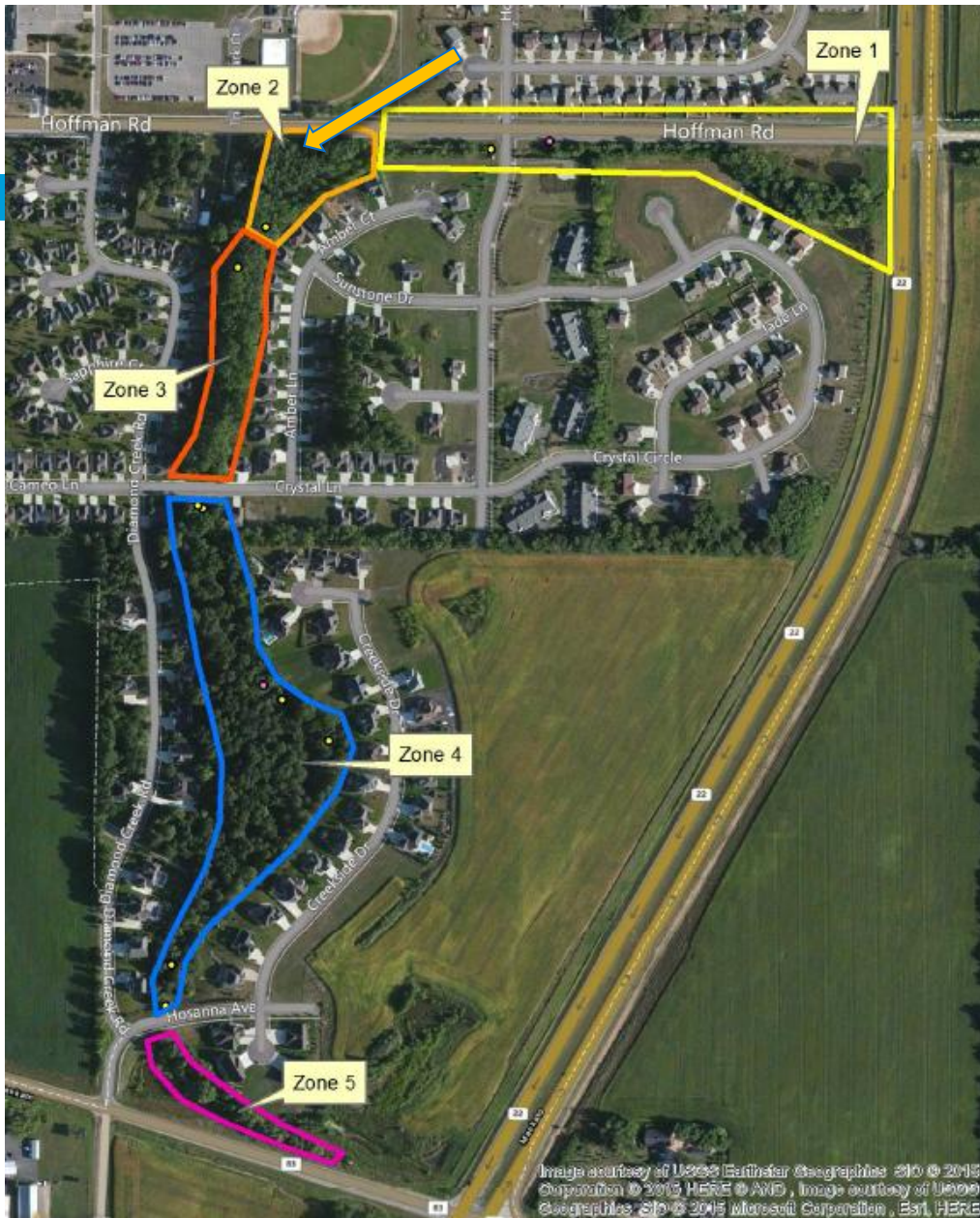
# Wilson Creek – Zone 1

17

- Identified needs:
  - Potential slope failures and sloughing
  - Relatively steep banks, near traveled way
  - High velocities
- Potential improvement
  - Continued vegetation management
  - Flow reduction
  - Possible pipe installation from TH 22 Hosanna or Thomas Drive



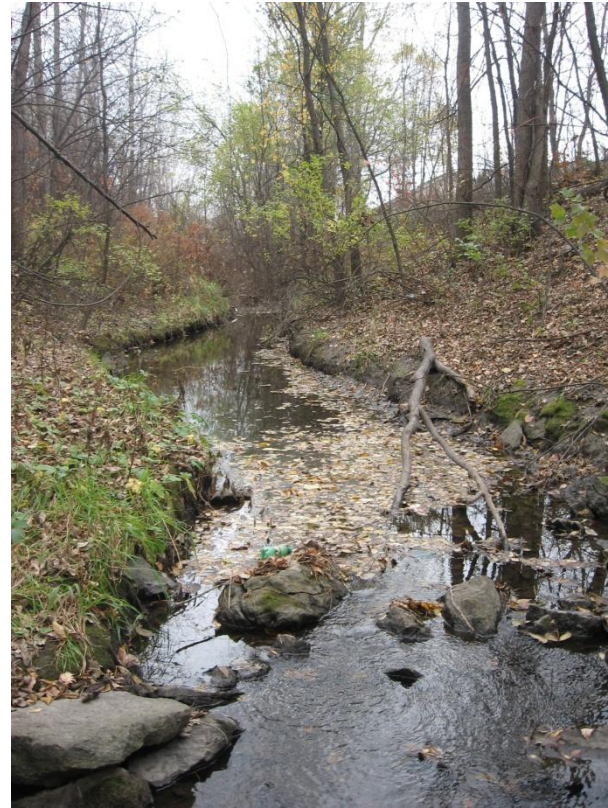
# Zone 2



- Zone 1 – Hoffman Rd. Ditch section
- **Zone 2 – Narrow creek with young vegetation**
- Zone 3 – Downstream of two 60-inch storm pipes – wider straight channel
- Zone 4a: South of Crystal Lane – relatively straight, limited bank erosion.
- Zone 4b: Most pronounced bank erosion, tight meanders, high banks.
- Zone 4c – Meanders with short banks, sediment bars
- Zone 5 – Hosanna Ave to Hwy 83



Zone 2: Creek flows southwest through young trees:  
Typical views – note significant widening due to capture of storm sewer discharge.



# Wilson Creek – Zone 2

20

- Identified needs:
  - Potential slope failures and sloughing
  - High velocities
  - Invasive and undesirable vegetation
- Potential improvement
  - Continued vegetation management
  - Flow reduction

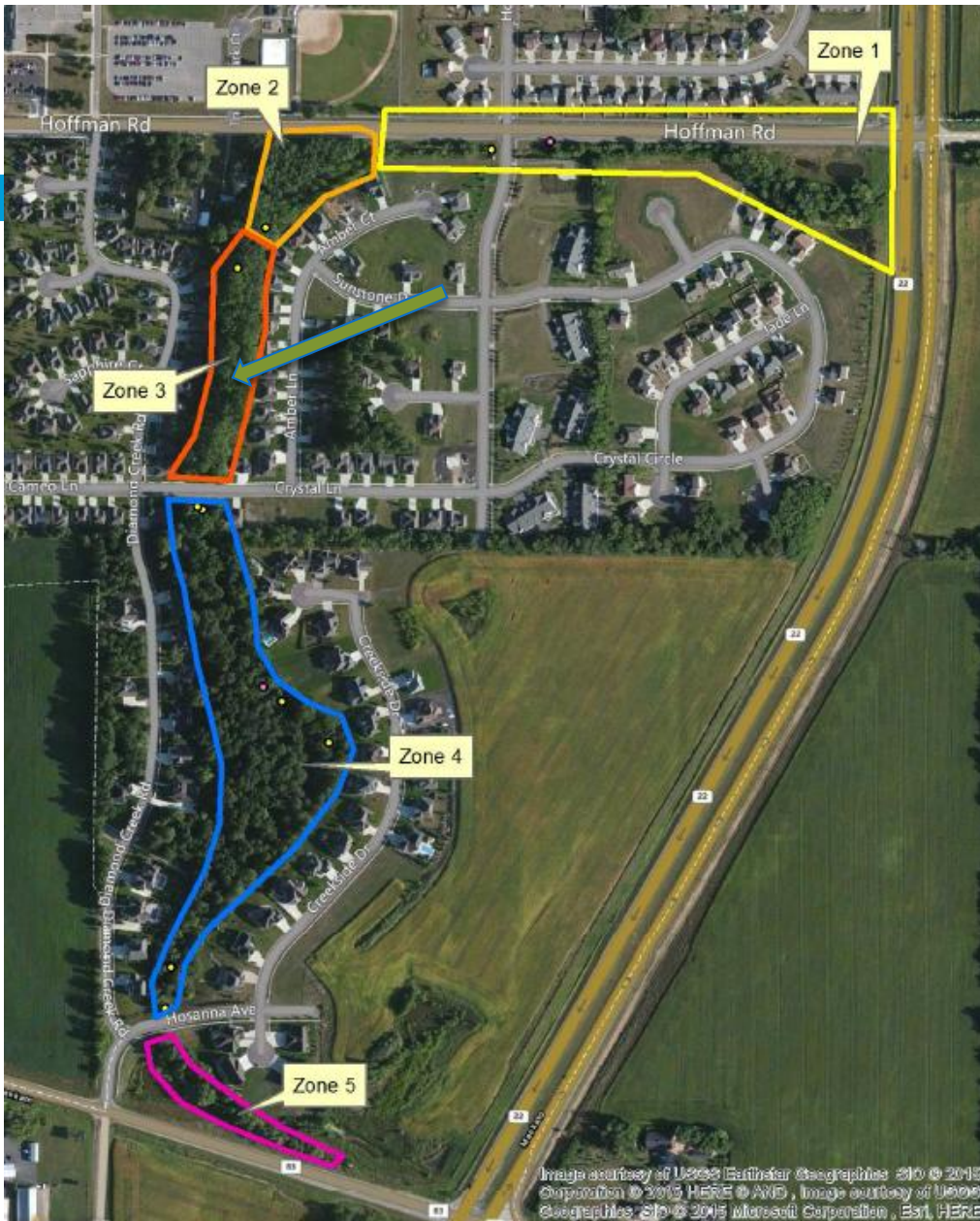


Zone 2: Wooded Area of Wilson Creek between Hoffman Road and storm water outlets. Creek is narrower and deeper when compared to downstream of outlets. Creek was likely “straightened” in the past. Vegetation is comprised of early successional tree species and native shrubs. Buckthorn is present, but in low concentrations.





# Zone 3



- Zone 1 – Hoffman Rd. Ditch section
- Zone 2 – Narrow creek with young vegetation
- **Zone 3 – Downstream of two 60-inch storm pipes – wider straight channel**
- Zone 4a: South of Crystal Lane – relatively straight, limited bank erosion.
- Zone 4b: Most pronounced bank erosion, tight meanders, high banks.
- Zone 4c – Meanders with short banks, sediment bars
- Zone 5 – Hosanna Ave to Hwy 83

Zone 3: South of the two 60-inch storm sewer pipes:

Views of Storm Sewer Pipes and concrete wing apron: a) looking upstream b) looking downstream

c) oversized corrugated culvert pass.





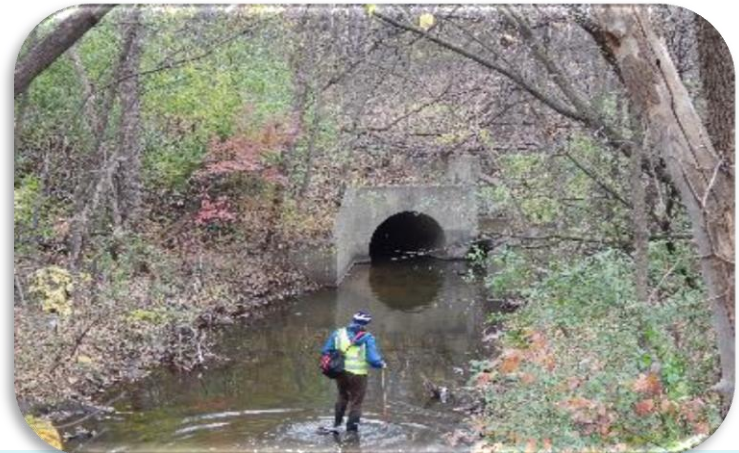
Zone 3 - CONTINUED: South of storm sewer structures. Creek flows south through more trees.  
a) & b) Typical views – note significant widening due to capture of storm sewer discharge. This portion is relatively straight showing little bank erosion c) Corrugated metal pipe





### Zone 3: Water control structure/Outlets to Crystal Lane.

Wilson Creek is wider and shallower than above structures. Bank erosion is minimal. Buckthorn is more prevalent (80% coverage) and varies from 6 to 15 tall. Tree canopy is comprised of larger diameter trees. Species is mixture of native maples and less desirable boxelder tree.



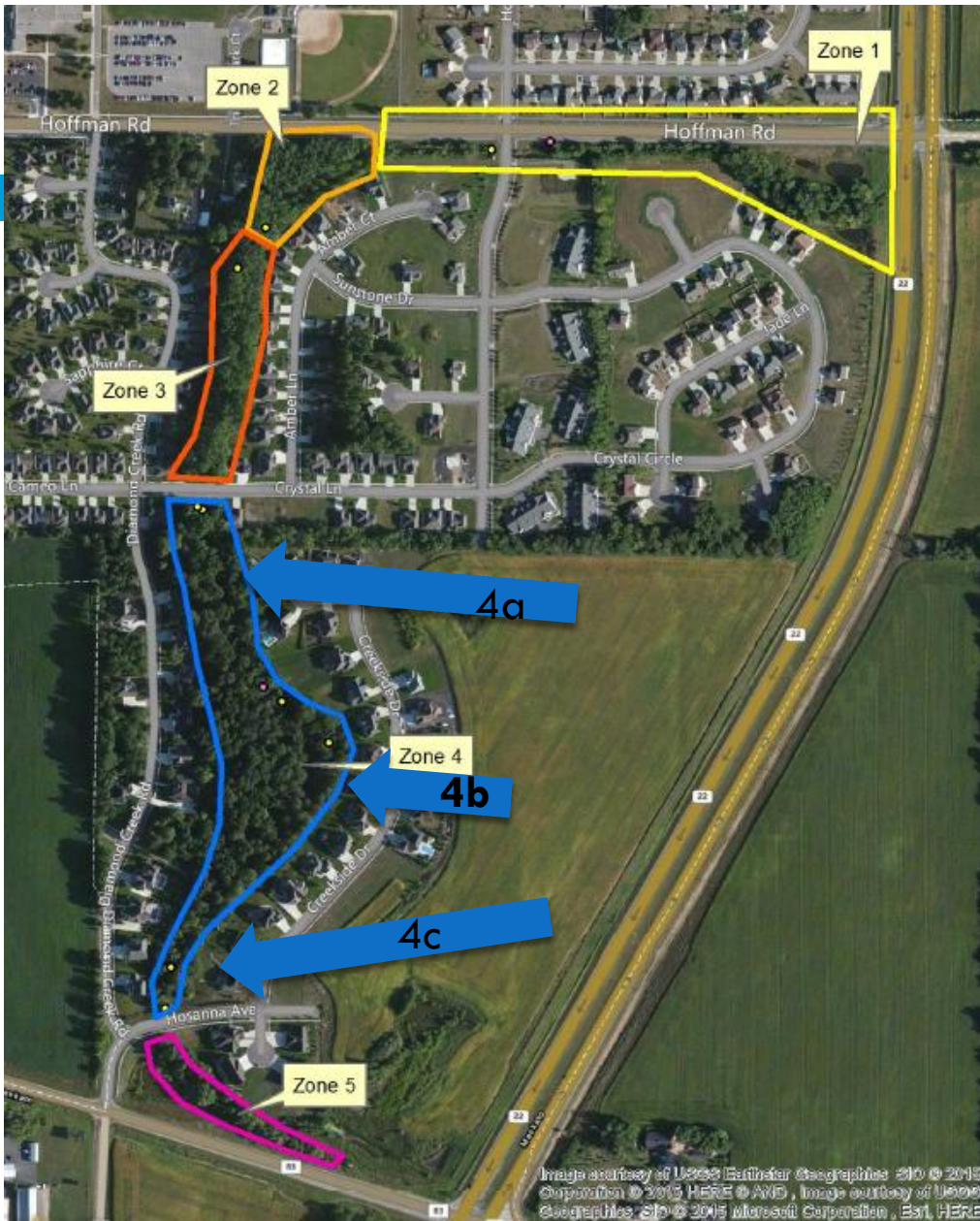
# Wilson Creek – Zone 3

26

- Identified needs:
  - High velocities
  - Invasive and undesirable vegetation
- Potential improvement
  - Continued vegetation management
  - Flow reduction



# Zone 4



- Zone 1 – Hoffman Rd. Ditch section
- Zone 2 – Narrow creek with young vegetation
- Zone 3 – Downstream of two 60-inch storm pipes – wider straight channel
- **Zone 4a:** South of Crystal Lane – relatively straight, limited bank erosion.
- **Zone 4b:** Most pronounced bank erosion, tight meanders, high banks.
- **Zone 4c –** Meanders with short banks, sediment bars
- Zone 5 – Hosanna Ave to Hwy 83



Zone 4a: South of Crystal Lane – views immediately south of Crystal Lane culvert crossing:  
a) Erosion in the left (east) bank partly contained with rock placement b) close up of soils  
c) Limited on the opposite (right, west) bank and d) further downstream on both sides





Zone 4a (CONTINUED): Typical views (upstream to downstream) - relatively straight channel, mature, native vegetation. Banks 3-4 feet high. Note presence of channel (sediment) bars





## Zone 4b: Entering tight meander portion, approx. 0.15 miles south of Crystal Lane





Zone 4b (CONTINUED) - Tight meanders, significant bank erosion, at one location bank failure is near a residential property. Corrugated pipe suggest significant bank migration.





## Zone 4b (CONTINUED) – Region of tight meanders and bank erosion spans about 0.3 miles



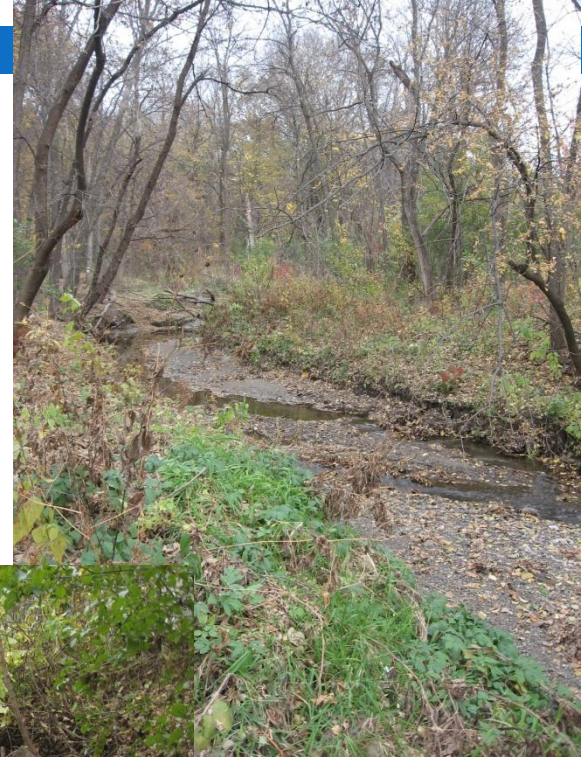


Zone 4b (CONTINUED) – Further downstream, same tight meanders and bank erosion with more vegetation debris and channel point bars present.



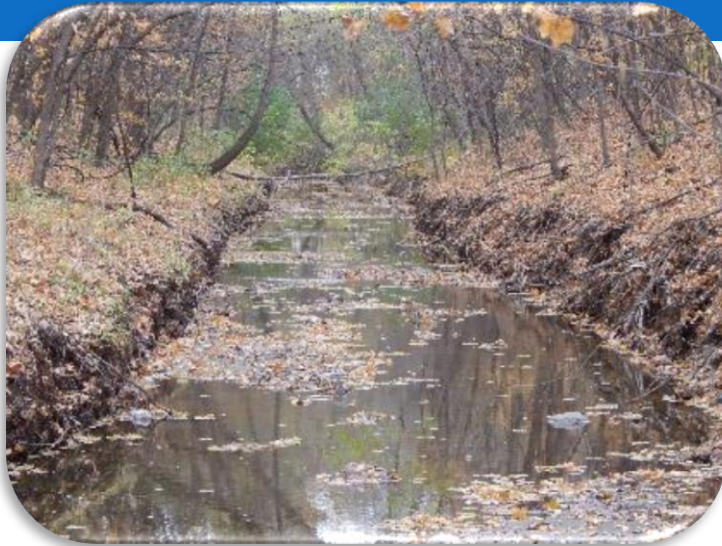


Zone 4c – Further downstream, just north of Hosanna Ave, meanders and mature vegetation but a significant a reduction in bank height and flow rate (possible infiltration)





Zone 4a: Wilson Creek from Crystal Lane to approximately halfway to Hosanna Drive.  
This section of Wilson Creek is straight, wide, and shallow. Erosion is more prevalent (south of Crystal Lane on east side and banks). Vegetation is great example of “Big Woods” ecosystem.  
Some buckthorn present, but generally small diameter and light densities.





### Zone 4b: Halfway from Crystal Lane to Hosanna Lane.

Wilson Creek begins to meander similar to natural stream. Bank erosion is more prevalent and closer to homes. Buckthorn in higher densities (near culvert at Hosanna Lane). Less desirable tree species of boxelder and cottonwoods present, but many native trees present.





Zone 4b (continued): Additional photos from Zone 4.





### Zone 4c: North of Hosanna Lane

Area has downed timber in creek and oxbow. Tree canopy is more open allowing reed canary grass to become established.



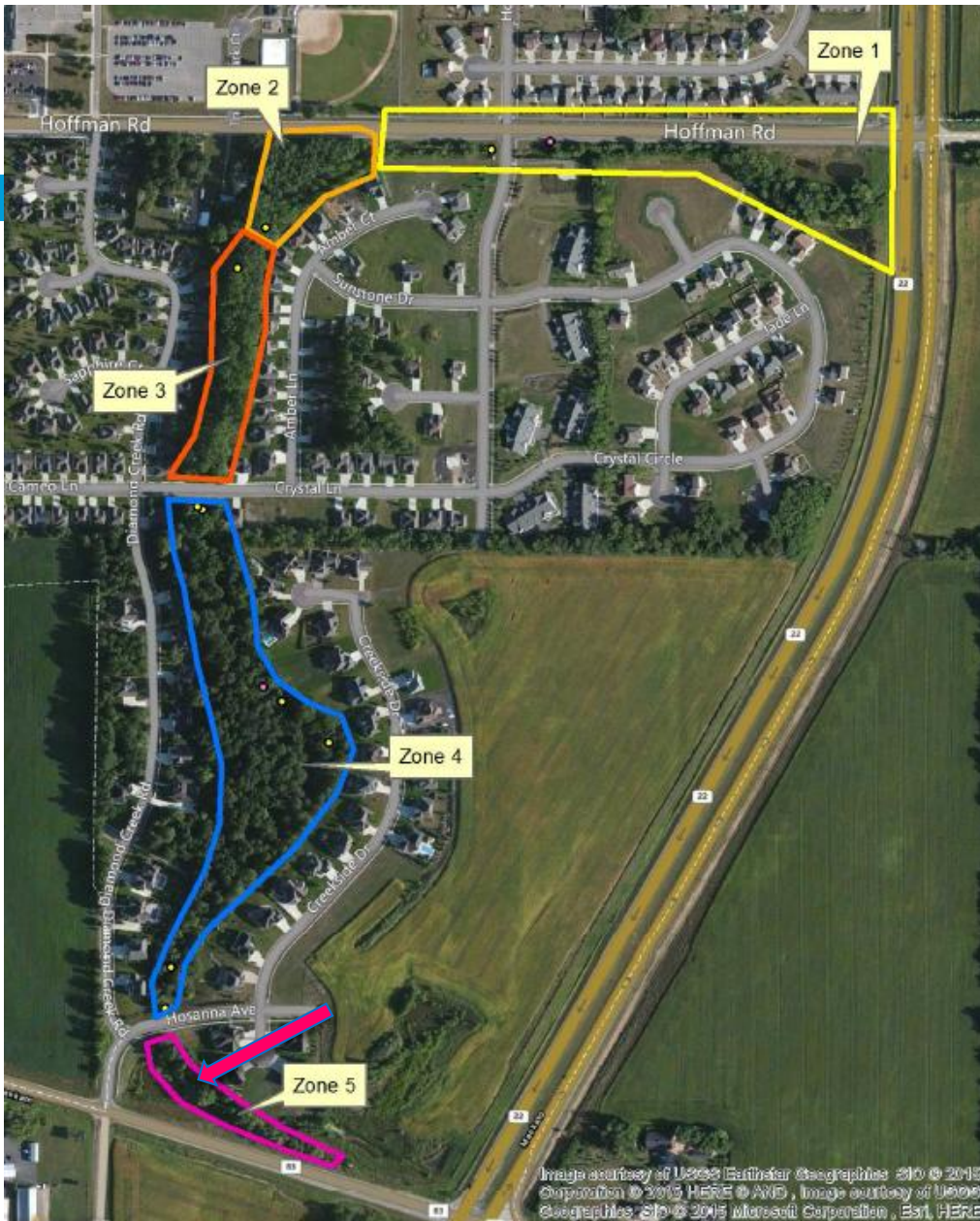


# Wilson Creek – Zone 4

39

- Identified needs:
  - High velocities
  - Invasive and undesirable vegetation
  - Vegetation impeding flow
  - Bank and channel erosion
- Potential improvement
  - Continued vegetation management
    - Remove vegetation from flowage way
    - Prevent fall-in
  - Flow reduction
  - Stabilize bank

# Zone 5



- Zone 1 – Hoffman Rd. Ditch section
- Zone 2 – Narrow creek with young vegetation
- Zone 3 – Downstream of two 60-inch storm pipes – wider straight channel
- Zone 4a: South of Crystal Lane – relatively straight, limited bank erosion.
- Zone 4b: Most pronounced bank erosion, tight meanders, high banks.
- Zone 4c – Meanders with short banks, sediment bars
- **Zone 5 – Hosanna Ave to Hwy 83**



Zone 5 – Between Hosanna Ave and Highway 83 (Stadium Rd) Upstream to Downstream:  
a) sediment pile up just south of Hosanna Ave culvert; b) vegetation debris  
c) a short stretch with boulder walls in left bank; d) upstream of Highway 83





### Zone 5: Hosanna Lane to 209<sup>th</sup> Street (Stadium Road).

Wilson Creek appears to be meandering slightly. Tree vegetation is comprised of less desirable species (boxelder and cottonwoods). Buckthorn is prevalent and more mature.





# Wilson Creek – Zone 5

43

- Identified needs:
  - High velocities
  - Invasive and undesirable vegetation
  - Vegetation impeding flow
  - Bank and channel erosion
  - Backup - Flooding
- Potential improvement:
  - Continued vegetation management
    - Remove vegetation from flowage way
    - Prevent fall-in
  - Flow reduction
  - Stabilize bank
  - Culvert replacement CSAH 60

# Watershed Improvements

44

Development will help improve drainage characteristics:

- Regional pond with school development
- CSAH 12 stormwater controls
- Improvements help to control drainage to and from the wetland east of CSAH 12
- Reduce flow through Diamond Creek neighborhood

Benefits:

- Reduce in-channel erosion
- Reduce wood debris in channel
- Reduce calls for service
- Help Mankato Townships and Blue Earth County comply with MS4 permit requirements



# Watershed Improvements

45

Improvements to existing system:

- Increase storage behind Wal-Mart
- Attenuate flows from Hoffman Road/East Main Street
- Stabilize banks

# Project schedule

## 2016

January Informational meeting – Draft recommendations

February Present to council

March Begin Implementation of council's direction

- Apply for funding
- Preliminary Design and cost Estimates
- Neighborhood meeting
- Final Design
- Special Assessment process

## 2017 – 2019 (funding dependant)

June Begin construction



# The next steps

---

- Informal meetings will be held prior to the project's start to discuss project phases and details of the final design.

# Help us help you

---

- If there is helpful information unique about the neighborhood, please share it with us so it can be incorporated into the plan, or addressed by a city staff member.
- If there are any questions, or suggestions, please let engineering staff know.